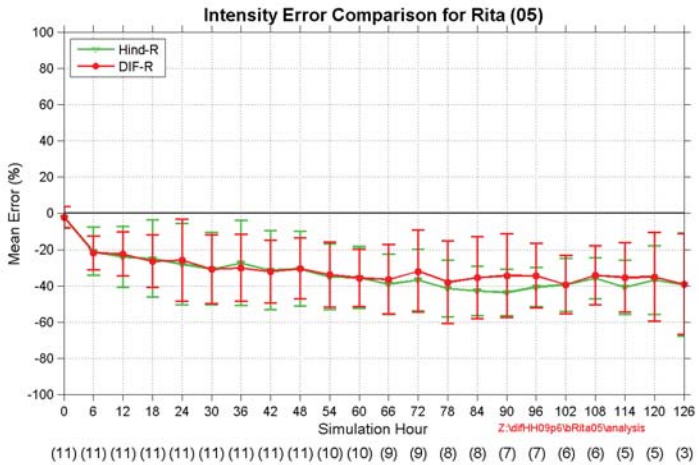
Hurricane Intensity Project Description

•Team members from NWS National Centers for Environmental Prediction (NCEP), OAR's Atlantic Oceanographic and Meteorological Laboratory (AOML), NESDIS CoastWatch, and IOOS Program

•Project designed to address assumption that integrating data across NOAA from various sources and applying standards for the integration adds value to NWS hurricane intensity model

•Coordination began last year, work began this calendar year with identification of three storms, creating additional data (Temperature-Salinity profiles for each storm) and other data required for model runs of the coupled HYCOM-HWRF system

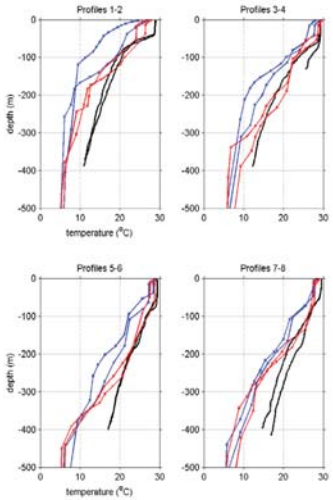
Hurricane Intensity Project - Initial Results



*Graph shows error of maximum sustained wind at each model run time

Hurricane Intensity Project - Initial Results

•Additional data helps in moving the water masses near the thermocline depths (> 50 m), towards the AXBT profiles, with less impact near the surface.



AXBT profiles (black) vs model results with additional data (blue) and without data (red)

Hurricane Intensity Project Milestones and Challenges

- Key remaining near term milestones
  1. Complete model runs for all three storms
  2. Evaluate the model runs to determine value of additional data for hurricane intensity
- Challenges -
  - Legacy system requirements for data input
  - NCEP computer upgrade
  - Drawing conclusions based on limited scope project
  - Evaluation process at NCEP requires more resources.

Hurricane Intensity Project Next Steps and Recommendations

- Produce evaluation assessment report by end of calendar year
- Suggest modifications to existing ocean observing systems for hurricane intensification prediction
- Evaluate additional storms with additional data
- Provide improved salinity data (vice climatology) using observations
- Engineer data flow that meets operational requirements